

TWO NEW SPECIES OF THE GENUS *IPHIDOSOMA* BERLESE, 1913 FROM CHINA (ACARI, MESOSTIGMATA, EVIPHIDIDAE)

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Abstract Two new species of *Ipheosoma* Berlese, *I. liaoningensis* sp. nov. from Shenyang City and Tieling City and *I. shenyangensis* sp. nov. from Shenyang City are described from the Liaoning Province, China.

Key words Acari, Eviphididae, *Ipheosoma*, new species, China

Introduction

The family Eviphididae includes about 120 species of small to medium-sized mites occurring in soil. The family is presently divided into two subfamilies, namely Thinozeinae Evans, 1954, which includes only the genus *Thinozeus* Habert, 1920, and Eviphidinae Berlese, 1913, which includes all 17 genera.

The genus *Ipheosoma* was erected by Berlese (1913) who designated *Holostaspis finetarium* Müller, 1859 as the type species. Now five species have been described from around the world and 1 species has been described from China. All the species were described based on deutonymphs.

In this paper, we describe two new species of *Ipheosoma* from China. The type specimens are deposited in the Department of Entomology, College of Plant Protection, Shenyang Agricultural University, Liaoning Province, China. All measurements of which paratypes are showed in bracket are given in microns (μ m).

Ipheosoma liaoningensis sp. nov. (Figs 1-6)

Deutonymph. Idiosoma length 527 (494-551), width 422 (421-462), circular and yellow. Dorsal shield completed, weakly reticulated and provided with 32 pairs of dorsal setae, 26 pairs of them shorter, 6 pairs of which (F_1 , F_2 , ET_1 , M_2 , M_9 , M_{11}) longer.

All plates of venter with reticulation. Sternal shield length 235 (235-251), width 162 (154-170), anterior margin concave, posterior margin convex, with 4 pairs of setae and 2 pairs of lyridiform pores; setae St_1 , St_2 , St_3 spine-like and thin at the apical part; setae Mst spine-like. Anal shield oval, length 81 (81-89), width 73 (73-81), with 3 circumanal setae. Adanal setae situated at the level of anterior margin of anal pore; postanal seta far away from anal pore and

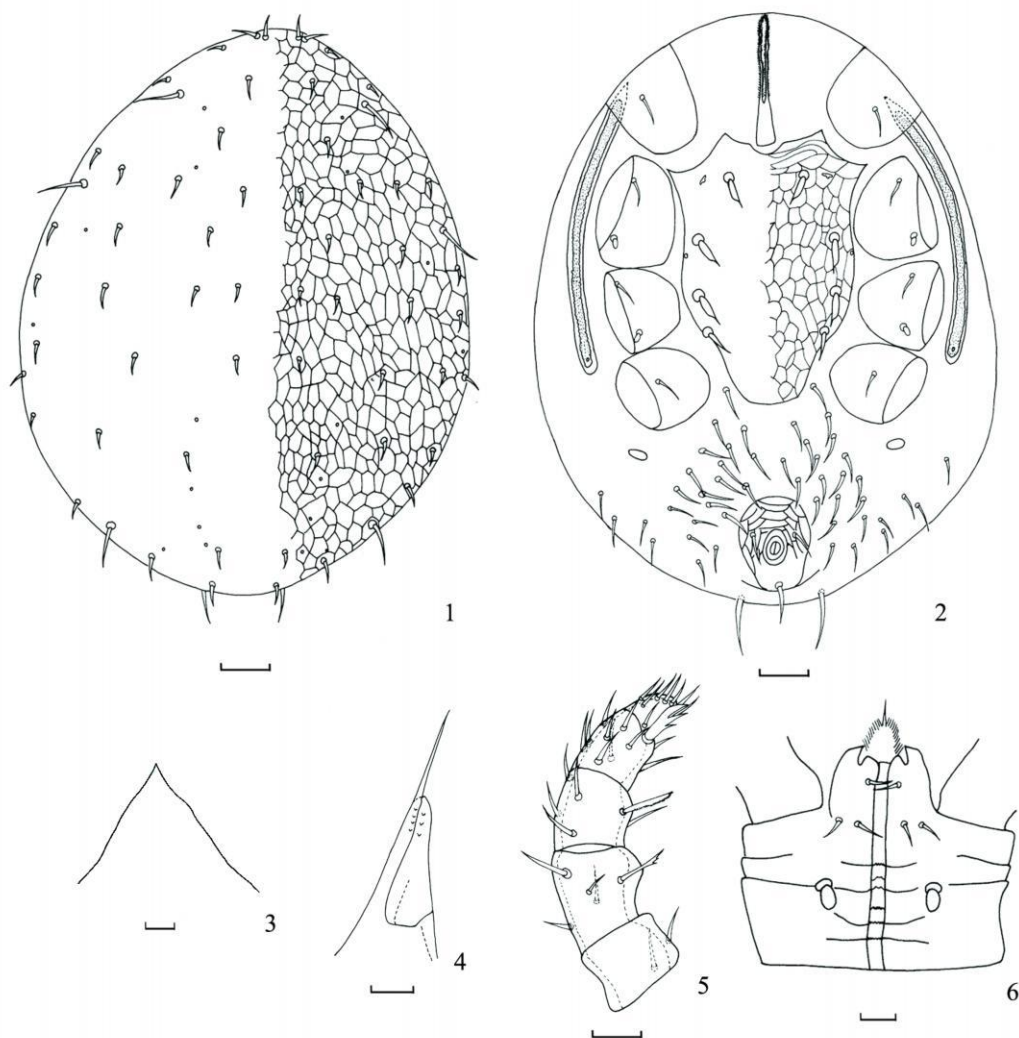
stronger than adanal setae. 1 pair of metapodal shields present and nearly circular. 23-26 pairs of setae on soft cuticle and most of them between sternal shield and anal shield. Stigma located at the level between coxae III and coxae IV, peritreme extending anteriorly to base of coxae I. Posterior setae of coxae II, III short and stout. Laciniae bifid and with thorns.

Tectum triangular and smooth. Gnathosoma with 4 pairs of hypostomal setae and the 4th pair short and stout; gnathosomal groove with 6 rows of teeth and every row with 2-6 teeth. Tarsus of palps with a 3-forked heavy setae. Fixed digit of chelicera with 3 teeth and 1 long spine-like elongated structure; movable digit with 4 teeth and the same length with fixed digit.

Holotype deutonymph from soil, Dongling (41°08'N, 123°38'E), Shenyang City, Liaoning Province, 21 June 2006, coll. CHEN Wan-Peng and ZHAO Ying-Yue. Paratypes: 1 deutonymph from soil, Beiling (41°51'N, 123°25'E), Shenyang City, Liaoning Province, 21 June 1983, coll. YIN Sui-Gong. 3 deutonymphs from soil, Tieling City (42°16'N, 123°50'E), Liaoning Province, 10 June 1984, coll. YIN Sui-Gong. 3 deutonymphs with the same data as holotype.

Etymology. The new species is named after the locality where the specimen was collected, Liaoning Province.

Remarks. The new species is similar to *I. rasmovae* Bregetova, 1977, but differs in the dorsal setae M_6 smaller, F_2 the same length with F_1 ; setae on coxae IV simple, without any platelets except metapodal shield between sternal shield and anal shield. In the latter, dorsal setae M_6 longer and stronger, F_2 longer than F_1 , setae on coxae IV spine-like and thin at the apical part. 3 pairs of platelets except metapodal shield between sternal shield and anal shield.



Figs 1-6 *Iphidosoma liaoningensis* sp. nov., deutonymph 1. Dorsum 2. Venter 3. Tectum 4. Chelicera 5. Paap 6. Gnathosoma

***Iphidosoma shenyangensis* sp. nov.** (Figs 7-11)

Deutonymph. Idiosoma length 446, width 340, circular and yellow. Dorsal shield completed, anterior margin weakly reticulated, provided with 29 pairs of dorsal setae, 9 pairs of them shorter and slender, 20 pairs of them longer and stronger.

All plates of venter smooth. Sternal shield length 203, width 113, anterior margin straight, posterior margin convex, with 4 pairs of setae and 2 pairs of lyriiform pores, setae St_1 and Mst common, setae St_2 and St_3 short and stout. Anal shield oval, length 81, width 81, with 3 circumanal setae. Adanal setae situated at the level of anterior margin of anal pore, postanal seta longer than adanal setae. Metapodal shields 2 pairs and nearly circular, one pair bigger, the another smaller. 10 pairs of setae on soft cuticle. Stigma at the level between coxae III and coxae IV, peritreme extending anteriorly to base of coxae I. Gnathocoxal setae and coxal setae of legs simple.

Laciniae bifid and with thorns.

Tarsus of paaps with a 2-forked heavy setae. Gnathosoma with 3 pairs of hypostomal setae, gnathosomal groove with 5 rows of teeth and every row with 6-7 teeth. Movable digit of chelicera with 2 teeth, while fixed digit with 1 tooth and pilus dentilis without elongated structure.

Holotype deutonymph from soil, Shenyang City (41° 08' N, 123° 38' E), Liaoning Province, Sep 1995, coll. Y. N. Su & G. Gong.

Etymology. The new species is named after the locality where the specimen was collected, Shenyang City.

Remarks. The new species is similar to *Iphidosoma finetianum* (Müller, 1859). Their dorsal shield are provided with 29 pairs of dorsal setae. In the new species, however, 9 pairs of the dorsal setae are shorter and slender, 20 pairs of them longer and stronger, setae St_1 and Mst common, setae St_2 and St_3 short and stout, 10 pairs of setae on ventral cuticle, 2

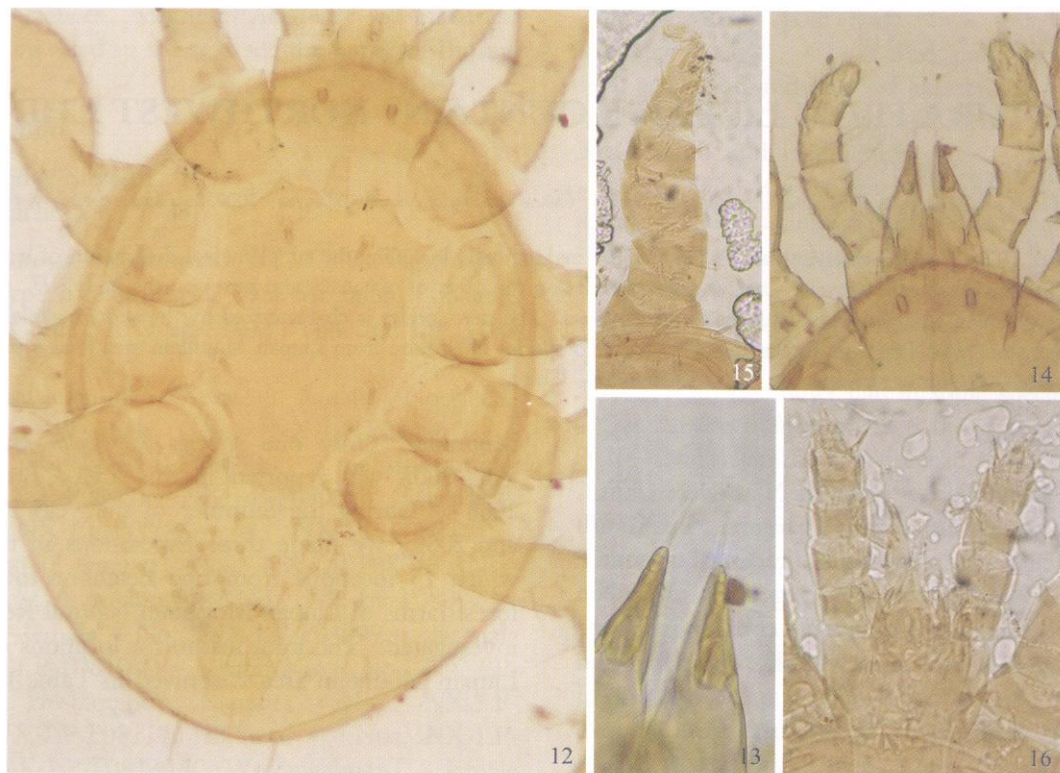


Figs 7-11. *Iphilosoma shenyangensis* sp. nov., deutonymph 7 Dorsum 8 Venter 9 Leg II. 10 Chelicera
11. Gnathosoma

pairs of metapodal shields; fixed digit without elongated structure. In the latter species 25 pair of the dorsal setae are shorter and slender; 4 pairs longer and stronger; sternal setae and *Mx* spine-like and thin at the apical part; over 20 pairs of setae on soft cuticle; 1 pair of metapodal shields; fixed digit with 1 elongated structure.

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Figs 12-14 *Iphidosoma liaoningensis* sp. nov., deutonymph 12 Venter 13 Chelicera 14 Gnathosoma (chelicera and pap). Figs 15-16 *Iphidosoma shenyangensis* sp. nov., deutonymph 15 Leg II. 16 Gnathosoma (chelicera and pap).

中国坚体螨属二新种 (蜱螨亚纲, 中气门亚目)

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摘要 记述坚体螨属 2 新种: 辽宁坚体螨 *Iphidosoma liaoningensis* sp. nov. 和沈阳坚体螨 *Iphidosoma shenyangensis* sp. nov., 模式标本保存于辽宁省沈阳农业大学植物保护学院。

辽宁坚体螨, 新种 *Iphidosoma liaoningensis* sp. nov. (图 1~6, 12~14)

新种与瑞氏坚体螨 *Iphidosoma rasumovae* Bregetova 1977 相近, 但新种背毛 M_6 短小, F_2 与 F_1 近等长; 足 IV 基节板毛简单刚毛状, 胸板和肛板之间除足后板外无小板。而后者背毛 M_6 粗长, F_2 长于 F_1 ; 足 IV 基节板毛棘状, 末端变尖; 胸板和肛板之间除足后板外具 3 对小板。

正模后若螨, 辽宁省沈阳市东陵土壤, 2006-06-21, 陈万鹏, 赵盈月采。副模: 1 后若螨, 辽宁省沈阳市北陵土壤, 1983-06-11, 殷绥公采; 3 后若螨, 辽宁省铁岭市土壤,

1984-06-10, 殷绥公采; 3 后若螨, 采集记录同正模。

词源: 新种以采集地点辽宁省命名。

沈阳坚体螨, 新种 *Iphidosoma shenyangensis* sp. nov. (图 7~11, 15~16)

新种与粪坚体螨 *Iphidosoma finetrium* (Müller 1859) 相近, 二者均有背毛 29 对, 但新种背毛有 9 对短小, 20 对粗长; St_1 , Mst 毛刚毛状, St_2 , St_3 粗短且末端圆钝; 腹表皮毛 10 对; 足后板 2 对; 螯肢定趾端部无长棘状结构。而后者背毛有 25 对短小, 4 对粗长; St_{4-3} , Mst 毛均棘状且末端变尖; 腹表皮毛超过 20 对; 足后板 1 对; 螯肢定趾端部具长棘状结构。

正模后若螨, 辽宁省沈阳市土壤, 1995-09, 殷绥公采。

词源: 新种以采集地点沈阳市命名。

关键词 蜱螨亚纲, 犹伊螨科, 坚体螨属, 新种, 中国。

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